THIS page was written after an l inquiry indorsed and promoted by a physician who has given his life not only to the study of tuberculosis, but his every effort to an attempt to check and beat down the plague that annually exacts a toll of one hundred and fifty thousand lives.

"It's purely an economic problem, he said. "Present methods are a failure, and they will continue to be.

It IS an economic problem, and according to the many authorities consulted by the writer in the working out of the article, it is a situation that demands most serious thought by the public at large and by the people who have directly interested themselves in the saving of lives. It is planned from time to time to take up for discussion other angles of the problem, that light may be thrown on it, and perhaps an intelligent handling brought about.

THE first steps to wage effective war against tuberculosis in this country were taken somewhat less than thirty years ago. Since that time many millions of dollars have been spent in educational campaigns and it has been proclaimed that the disease, which annually exacts a toll of more than one hundred and fifty thousand lives, can be eradicated through

the continuation of such methods.

Men who are devoting their lives to the study of the disease disagree. While it is true that tuberculosis mortality has decreased, it is likewise true that it has been on the decline for one hundred years, which period of time obviously includes the seventy years prior to the beginning of an organized campaign against the scourge. Again while tuberculosis claims fewer lives per hundred thousand of population each succeeding year, the decline in the tables of the mortality from tuberculosis is markedly less than the decline noted in the mortality tables covering all deaths, proving that tuberculosis has not responded to the efforts made, which, say some, are quite futile and barren of results that are likely to prove of permanent benefit.

At any rate this and succeeding articles are intended to take up the various angles that go to make up the situation, in the belief of the writer that discussion cannot fail to prove helpful in that it will stimulate thought, and that it will cause those who are devoting their efforts to pause and ask whether they are getting the results that should be expected from the expendi-

ture of energy.

The whole problem today is fundamentally an economic one, say students, men who are spending their lives in the study of the disease and the means with which successfully to combat it, and the methods now employed cannot help but will continue to fail, as they have failed and are failing, because they do not meet that situation. Until economic conditions are changed the fight against tuberculosis, in the larger sense at least, is foredoomed to lose its battle against the insidious workings of the plague.

Other elements naturally have their place but the whole tragedy is bound up in the cold, hard fact that impossible economic conditions are responsible first, for tuberculosis; second, for its spread; third, for its terrific and appalling wastage of human lives.

In the past it has been estimated that the number of cases of tuberculosis in the country approximates thrice the number of deaths annually; that, for the 150,000 deaths in the United States in round numbers, there are a half million cases of active tuberculosis. It is known now of course that these figures are ridiculously small. In fact, it is accepted that there are at least three times that number which require treatment, and it is further estimated and believed that careful diagnosis, of which more will be said later, would bring to light ten times the number first mentioned. Indeed, one authority states that it has resolved itself purely into a question of whether at least ninety per cent, rather than seventy-five per cent, of the population are not in some measure tuberculous. As pointed out by one writer, "As a matter of fact very few escape infection with tubercle bacilli, especially those living in large industrial cities," but as this same authority later says, "Tuberculous disease is always preceded by infection, but infection with tubercle bacilli is not invariably followed by disease."

Urbanization and industrialization of the country are factors greatly responsible of course for tuberculosis. Inadequate housing conditions which exist always among the poorer people, their whole environment, at home and in their places of employment, make for the success of tuberculosis. Of that there can be no doubt. And that nothing, or very little, at least, of a reformatory character having been done to bring adequate and healthful housing conditions in the centers of industry, little can be expected of the campaigns against tuberculosis as they are now conducted. And

with the foregoing goes hand in hand the economic serfdom of those who labor.

ON THE basis of statistics concerning the death-rate from tuberculosis, one authority with whom the writer discussed the problem urged that some radical change is necessary in our anti-tuberculosis program if we would achieve any further reduction of the death-rate. In the past six or seven years, despite a vast amount of effort, little real progress has been made. In 1912 the death-rate from pulmonary tuberculosis in the United States was 129.9 for 100,000 population; in 1918 it was 128.9. The rate has remained practically stationary. A similar condition has been observed in Great Britain

The Enemy Within the Lines

By HAROLD W. ROLAND

OF THE DEARBORN INDEPENDENT STAFF

and in Germany, and European observers suggest two factors as possibly responsible, dietary restrictions imposed by the war conditions, and the great increase in the proportion of women in industry. Inasmuch as tuberculosis mortality in the United States was quite stationary in 1912, 1913, and 1914, it was pointed out by this professional man, these two factors just mentioned

fail to explain conditions in this country.

On the other hand the speaker recalled a conversation with the discoverer of the tubercle bacillus, Robert Koch, who, ten years ago, gave warning of just such a situation as at present. "Your tuberculosis mortality curve," said Professor Koch, "is fast taking on the character of a parabola, and unless you introduce some new weapon with which to combat the disease, you will find that your tuberculosis death rate will remain al-

most stationary.'

The fault, however, cannot be laid entirely to unsatisfactory economic conditions. Part of it rests with the medical profession, according to this member of that profession, and is due to inaccurate and incomplete diagnosis by careless physicians. With his views many others high in the medical world agree. This is particularly a difficult subject to touch upon for there is nothing else probably that will so arouse a physician as a statement questioning the care exercised by the profession in the performance of its duties. And yet the writer is in a position to vouch for the fact that such a condition does exist if the word of men high in the practice of medicine is to be believed. Coupled with this carelessness and inadequacy in diagnosis is the deplorable fact that as yet no reliable statistics are available concerning the actual number of tuberculosis cases in the country. In many cities of course it is true that most of the cases diagnosed as tuberculosis are reported to the health authorities, but that there are hundreds of thousands of persons who are victims of the tubercle bacillus and either are living in ignorance of that fact, or knowing it, go without medical assistance, can not be gainsaid.

A special effort should be made throughout the country to discover the large number of cases of tuberculosis now passing undiagnosed, believes this physician with whom the writer talked. Even in a city like New York, where an intensive anti-tuberculosis campaign has been carried on for more than twenty-five years, fewer than one-half of the cases of tuberculosis believed, by competent authorities, to exist in the city, are actually recognized and reported to the health authorities. These unrecognized cases are especially dangerous as sources of infection, for as a rule they represent an entire absence of precautions to prevent the

spread of the disease to others.

In this undertaking health officers, physicians, social workers and the general public should co-operate. Some physicians still allow cases of well-developed tuberculosis to pass unrecognized, making only the most hurried and incomplete physical examinations, methodically carried out, and with all clothing stripped from the chest, and should learn to shun as incompetent or careless a physician who attempts to diagnose the patient's condition without such an examination.

In connection with the foregoing statement it may be of interest to quote from the most recent work of authority on tuberculosis which, in dealing with the general management of tuberculosis, insists that a patient found to have tuberculosis should not be kept in ignorance of that fact. It is stated: "Many physicians are inclined to keep him (the patient) in ignorance as to the true state of affairs, and to tell him that he is merely affected with a 'mild bronchial catarrh,' 'pleurisy,' 'a protracted cold,' etc. Very often a patient is brought to the office by relatives and friends who beg the physician that in case tuberculosis is diagnosticated, the patient should under no circumstances be told the

"There are many valid reasons against such a procedure. From the standpoint of the physician's personal interest, it is bad practice. It is always to be borne in mind that the patient will, sooner or later, find out the truth and blame his doctor for deception or, more often, accuse him of ignorance and claim, with considerable justice, that had he been informed in time he might have taken better care of himself."

It is pointed out too that many of the older physicians probably have not had the opportunity of keeping up with newer diagnostic methods and as one of the first and most important steps to be taken if a successful battle against the disease is to be fought, the writer's informant urged that measures be devised whereby instruction in modern methods of examining patients for pulmonary tuberculosis would be given to such physicians all over the United States. As one means of performing this it is suggested that the use of a motion picture film (successfully used to train surgeons in the army) would be an important step in the right direction.

Of the decline in the mortality from tuberculosis, which has been noted for more than one hundred years, Dr. Maurice Fishberg, an eminent authority on the disease, and clinical professor of medicine, New York University and Bellevue Hospital Medical College, says, in the second (1919) edition of his work, "Pulmonary Tuberculosis," the authoritative work on

"What are the causes of this decline in the tuberculosis mortality? All authorities agree that it is mainly due to the causes which have been operative in reducing the general mortality; in banishing, or abating, the malignancy of most other infectious diseases.

"Among these factors are largely to be considered the improvements in the sanitary and hygienic conditions under which the bulk of the people live at present.

It is also to be considered that modern factory legislation, the improvements in the economic conditions of the people, the shorter hours of work, etc., which are characteristic of the present, as compared with conditions during the first half of the nineteenth century, have been instrumental in reducing the general mortality and of phthisis as well. Wages have been in-creasing, and the food consumed by the working people of today is much superior to that which they could afford fifty or one hundred years ago. The distribution of food, as well as its preservation, precludes famines at present. An increase in the tuberculosisrates is often observed during and after famines. 'Most authors, when speaking of the reduction in

the tuberculosis mortality, point at once at the special measures which have been taken to combat this disease as the sole factor in this direction. In fact, the figures (figures on mortality from tuberculosis) are always brought forward in proof of the effectiveness of the anti-tuberculosis campaign which has been so

aggressively waged.

"But careful studies of the available statistical data have not sustained this contention. In England, where the decline has been more pronounced than in any other country, it has been shown by competent statisticians that such is not the fact. Karl Pearson points out that, examining available data, it appears that the deathrates from phthisis are steadily increasing as we go backward to 1838; according to Arthur Ransome even as far back as 1743. Now, this could not go on indefinitely, because if it did, every individual five hundred years ago must have died in England from phthisis. There was assuredly a time in England when the phthisis rates were rising, just as they have recently been falling. 'We have to stretch,' says Pearson, 'our ideas of time a little and we should realize the possibility of a typical epidemic curve in the frequency of phthisis. Indeed, the mortality from phthisis in England has been declining since 1838, i. e., long before any special measures had been taken for the control of the disease, or segregation of the sources of infection-tuberculous human beings and animals-had been attempted."

"DATA from other countries, especially disease has become a menace during recent years, confirm these views. During the first half of the nine teenth century there were isolated areas in Europe where tuberculosis was rare, but with the segregation of the population in cities during recent years, and the introduction of modern industrial conditions, the dis ease has made its appearance, and rages there with greater vigor than in countries where the disease has appeared before. Thus, the tuberculous mortality has been rising in Ireland, Norway, Serbia, Bulgaria, Hungary, Japan, etc., during the very period that it has been declining in England, Germany, etc. There is no doubt that the measures taken for the control of the disease in Norway are as aggressive and advanced a those taken in neighboring Denmark, yet in the former the mortality-rates have been rising, while in the lat ter they have steadily declined. The same is true of France when compared with Belgium, and similar an alogies can be made between other countries, or variou regions of any single country.'

The following sentence is italicized by Dr. Fishberg himself as his conclusion, whereas those phrases al ready italicized were marked by this writer:

"It appears that the mortality-rates from tuberculosi have been declining to the same extent as the genera mortality from all causes, as has been shown clearly by many competent statisticians."

To quote from another authority: Professor Walter F. Wilcox, in the monthly bulleting of the New York State Board of Health, says that "t show that the campaign against tuberculosis is having its effects, it should be found that the death-rates from that disease are decreasing faster than the average for all other causes." The test, a comparison of the sta tistics for the mortality in New York State, shows that

But read the testimony of William Charles White who in 1913, as treasurer of the National Association for the Study and Prevention of Tuberculosis, said:

the result is a negative one.

"We cannot possibly avoid the facts that in spit of all our labor our results are not what we migh have expected on a right premise; for our reduction i morbidity and mortality from tuberculosis has not ket pace with the reduction in the general death-rate; and further, our reduction in mortality was about as great before we started our present methods, and in provin how great the influence of our efforts has been w usually neglect all the influences that operated befor we began, and new factors, such as the Mills-Reineck phenomenon, and ascribe all good to our own work."

In this connection it should be stated that for som

time the Mills-Reinecke phenomenon was scoffed at b many who were engaged in anti-tuberculosis work. To day it is admitted that the facts put forth in th phenomenon have been fully verified. It has to do wit showing that the filtration of drinking water indirect has brought about a decrease in number of cases tuberculosis, in that other diseases from which tube culosis most easily springs have been minimize through filtration.

As a concluding quotation of authorities let us re

turn to Dr. Fishberg, who writes:

"Careful study of the economic and social cond tions in the various countries where statistical da are available shows clearly that there is a pronounce correlation between urbanization, i. e., concentration of large masses of population in cities, and the death rates from phthisis. Wherever the process of urbal

(Concluded on page 15)